73. To Heinrich Zangger

[Berlin, ca. 10 April 1915][1]

Dear friend Zangger,

You have the patience of an angel not to be angry about my silence. But I console myself with the fact that your memory does not extend far enough back to determine the degree of my negligence reliably. I am now starting to feel comfortable in the present-day mad turmoil, in conscious detachment from all things that occupy the deranged public at large. Why is it not acceptable to live enjoyably as a member of the madhouse staff? All madmen are respected as those for whom the building that they are inhabiting is there. The asylum can be selected freely, to a certain degree—but the difference between them is less than you expect as a young man. Romain Rolland, who currently lives in Geneva, recently sent me a suggestion, which—to continue the metaphor—amounts to the organization of the sane staff at all asylums for the purpose that they not become deranged as well.[2] Besides, he has hopes that such an organization would even cure the madmen, more or less. The optimist! If you have the opportunity, look after him; he is being persecuted for his international mentality.[3]

Concerning science, this semester I worked on a wonderful experimental problem together with Lorentz's son-in-law at the Reich Institute.[4] We have supplied firm experimental proof of the existence of Ampère's molecular currents (explanation for para and ferromagnetism). Namely, if the molecule's magnetic moment is provided by rotating electrons in this manner

![Diagram of a gyroscope](attachment:gyroscope_diagram.png)

then, mechanically, the molecule is a gyroscope whose axis coincides with the magnetic one.

From this, through purely theoretical and mechanical means, we can draw the conclusion:

![Diagram of an iron core with solenoid](attachment:iron_core_diagram.png)

If you commutate the magnetic poles of a little rotatable iron rod suspended within a coil by inverting the current, the rod receives a measurable and precisely predictable angular momentum.
The experiment provided detailed verification of the theory within the margin of error (about 10%). The paper will appear in a few weeks;[5] then I shall send you an offprint, of course.

The theory of gravitation will not find its way into my colleagues' heads for a long while yet, no doubt. Only one, Levi-Civita in Padova, has probably grasped the main point completely, because he is familiar with the mathematics used; but he is seeking to tamper with one of the most important proofs in an incessant exchange of correspondence. Corresponding with him is unusually interesting; it is currently my favorite pastime.[6]

Life without my wife is a veritable rebirth for me personally. It feels as if I had ten years of prison behind me. In matters of the emotions humans are so strange. And all this even though I love my boys more than I can say, who have now been taken away from me after all;[7] I carried them around countless times at night, took them out on walks in their pram, carried them on my shoulders, joked with them, explained things to them that their little minds were beginning to absorb, guided their attitude toward things—and now they are gone, my influence on them shrunk down to superficialities. My human and professional contacts are few but very harmonious and rewarding, my public life withdrawn and simple. I must say that to me I seem one of the happiest of persons.

I hope confidently that soon there will be peace; the madmen will soon turn their efforts to a more harmless field again. But they will remain just what they are. From where do you get your optimism to devote yourself with such resilience to the affairs of the general public? I admire it, but do not understand it. For rarely has anyone been treated so abominably out of conscious meanness as you; only educated beasts are capable of the like.[8] When I receive the promised copy of your essay,[9] I shall be glad to make notes on it, which naturally cannot yield anything factual for you, because I am a child in these matters; at best I am somewhat knowledgeable in logical composition.

How is your friend Huguenin?[10]

Affectionate greetings from your

Einstein.

74. To Tullio Levi-Civita

[Berlin,] Sunday, [11 April 1915]

Dear Colleague,

You get a nice special case for the statement that \( \frac{e_{\mu\nu}}{\sqrt{-g}} \) is a tensor[1] when you set \( H = \text{const} \). The condition \( B_\mu = 0 \) is then satisfied identically, and \( H \)